AMENDMENT

In the Specification:

Please amend the specification as follows (the changes in the specification are shown with ~~strikethrough~~ for deleted matter and underlines for added matter).

Please add the following paragraphs after line 31 on page 8 as inadvertently omitted brief descriptions of the figures.

Fig. 4 shows a cup-crush testing system which includes a cup forming assembly and force testing unit.

Fig. 5 shows the cup-crush testing system of Fig. 4 engaging a sheet.

Please replace the paragraph from line 22 on page 36 to line 15 on page 37 with the following paragraph:

The binder formulations of the present invention are particularly useful for binding fibers of air-laid nonwoven fabrics. These air-laid materials are useful for body-side liners, fluid distribution materials, fluid in-take materials, such as a surge material, absorbent wrap sheet and cover stock for various water-dispersible personal care products. Air-laid materials are particularly useful for use as a pre-moistened wipe (wet wipe). The basis weights for air-laid non-woven fabrics may range from about 20 to about 200 grams per square meter ("gsm") with staple fibers having a denier of about 0.5-10 and a length of about 6-15 millimeters. Surge, or in-take, materials need better resiliency and higher loft so staple fibers having about 6 denier or greater are used to make these products. A desirable final density for the surge, or in-take, materials is between about 0.025 grams per cubic centimeter ("g/cc") to about 0.10 g/cc. Fluid distribution materials may have a higher density, in the desired range of about 0.10 to about 0.20 g/cc using fibers of lower denier, most desirable fibers have a denier of less than about 1.5. Wipes generally can have a ~~fiber~~ final density of about 0.025 g/cc to

about 0.2 g/cc and a basis weight of about 20 gsm to about 150 gsm; specifically from about 30 to about 90 gsm, and most specifically from about 60 gsm to about 65 gsm. The wipe retains its structure, softness and exhibits a toughness satisfactory for practical use. However, when brought into contact with water having a concentration of multivalent ions, such as Ca^{2+} and Mg^{2+} ions, of up to about 200 ppm, the wipe disperses. Similarly, when brought into contact with water having a concentration of multivalent ions, such as Ca^{2+} and Mg^{2+} ions, of less than about 10 ppm, the wipe disperses. The wipe is then easily broken into fibers and/or small pieces and dispersed in the water.

Please replace the paragraph from line 5 to line 14 on page 65 with the following paragraph:

Cross direction wet tensile tests (CDWT) or machine direction wet tensile strength (MDWT) are performed as described above using the pre-moistened sample as is, after the sample has equilibrated by sitting overnight in a sealed plastic bag. Alternatively, wet tensile results can be measured with an MTS Synergie 200 tensile tester using the Testworks™ 3.10 for Windows software. A 1-inch wide by 4-inch long strip can be used for testing. The gauge length between the jaws of the test device may be 3 inches. Testing is operated at the specified cross head speed of 12 in/min. The peak load for each of 10 samples was measured and the average peak load in g/1" reported as in Table 29.

Please replace the paragraph from line 10 to line 29 on page 67 with the following paragraph:

Desirably, in another embodiment, the wet wipes of the present invention possess an in-use wet tensile strength (CDWT) of at least 100 g/in, and a tensile strength of less than about 70 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour ~~(MS-CDWT-M)~~. Additionally, these wet wipes have a tensile strength of less than about 60% of the original CDWT after being soaked

in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour. More desirably, the wet wipes possess an in-use wet tensile strength (CDWT) of at least 200 g/in, and a tensile strength of less than about 50 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour ~~(MS-CDWT-M)~~. Additionally, these wet wipes have a tensile strength of less than about 40% of the original CDWT after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour. Even more desirably, the wet wipes possess an in-use wet tensile strength (CDWT) of at least 300 g/in, and a tensile strength of less than about 30 g/in after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 10 ppm for about one hour ~~(MS-CDWT-M)~~. Additionally, these wet wipes have a tensile strength of less than about 20% of the original CDWT after being soaked in water having a concentration of Ca^{2+} and/or Mg^{2+} ions of about 200 ppm for about one hour.

Please replace the paragraph from line 26 on page 73 to line 2 on page 74 with the following paragraph:

The thicker the wet wipe the better, as a sheet that is too thin may not provide an effective barrier between the user of the product and the surface being cleaned. At sheet thicknesses less than about 0.25 mm, the sheet would be considered too thin or flimsy. Accordingly, the wet wipe sheets of the present invention desirably have a thickness greater than about 0.25 mm. More desirably, the wet wipe sheets of the present invention have a thickness greater than about 0.3 mm. Most desirably, the wet wipe sheets of the present invention have a thickness greater than about 0.4 mm.

Please replace the paragraph from lines 5 to 11 on page 74 with the following paragraph:

Wet wipes made according to the present invention desirably have a wet tensile strength sufficient such that the wipes may be used without breaking or tearing. Accordingly, the wipes of the present invention desirably have a wet tensile strength of

greater than about 100 ~~g/in^2~~ g/in. More desirably, the wet wipes have a wet tensile strength of greater than about 200 ~~g/in^2~~ g/in. Most desirably, the wet wipes have a wet tensile strength of greater than about 300 ~~g/in^2~~ g/in.

Please replace the paragraph from line 5 to line 27 on page 75 with the following paragraph:

One measure of the softness of a non-woven fabric sheet 1202 is determined according to the "cup crush" test by system 1100. The cup crush test evaluates fabric stiffness by measuring the peak load (also called the "cup crush load" or just "cup crush") required for a 1.6 cm diameter hemispherically shaped foot 1108 to crush the wipe 1202 shaped into an approximately 3.2 cm diameter by 3.2 cm tall cup shape, while the now cup shaped fabric is surrounded by an approximately 3.2 cm diameter cylinder cup 1110 to maintain a uniform deformation of the cup shaped fabric 1102. There can be gaps between the ring 1114 and forming cup 1110, but at least four corners 1106 must be fixedly pinched there between. The foot 1108 and cylinder cup 1110 are aligned to avoid contract between the cup walls and the foot that could affect the readings. The load is measured in grams, and recorded a minimum of twenty times per second while the foot is descending at a rate of about 406 mm per minute. The cup crush test provides a value for the total energy required to crush a sample (the "cup crush energy") which is the energy over a 2.0 cm range beginning 0.5 cm below the top of the fabric cup, i.e., the area under the curve formed by the load in grams on one axis and the distance the foot travels in millimeters on the other. Cup crush energy is reported in ~~gm-mm~~ g-mm (or inch-pounds). A lower cup crush value indicates a softer material. A suitable device for measuring cup crush is a model 2700096 load cell (10N) available from the MTS Systems Corporation of Minneapolis, Minn. The cup crush (cup crush load) values reported in the Examples are the average of 15 tests, each conducted on a previously untested sample.

Please replace the paragraph from line 17 to line 25 on page 76 with the following paragraph:

The products wet opacity is desirably higher as the wet opacity provides an indication that the wet wipe will be able to perform its desired function without breaking or otherwise tearing. And wet opacity is generally lower than dry opacity as the addition of the solution reduces the amount of light scattering in the product resulting in lower wet opacities than a corresponding dry opacity for the same product. Accordingly, the wet wipes of the present invention desirably have a wet opacity of greater than about 20%. More desirably, the wet wipes of the present invention desirably have a wet opacity of greater than about 35%.

Please replace the paragraph from line 7 to line 12 on page 79 with the following paragraph:

The sensitivity of the polymer formulations of Example 3 to divalent cations present in hard water were measured. ~~Samples~~ Films cast from samples 1-10 of Example 3 are placed in a number of $CaCl_2$ solutions with a Ca^{2+} concentration varying from <10 to 200 ppm. Following soaking for an hour, the solubility of each polymer is noted. The solubility results are given below in Table 7.

Please replace the paragraph from line 12 to line 24 on page 90 with the following paragraph:

Each of the particle suspensions was then added to dried airlaid basesheets that had been treated with NaAMPS binder and a co-binder polymer according to Example 13. The add level was 200%, with application by spray on one side of the web. The moistened web was then sealed in plastic to sit overnight. Examination of the pre-moistened wipes treated with particulate suspensions as the wetting composition revealed that the particles generally remained in the wet wipe without the need for additional thickeners or polymeric retention aids. Squeezing the pre-moistened wipes, for example, yielded a mostly clear fluid apparently substantially devoid of particulates, in contrast to the milky suspensions used to wet the wipes. Generally, no visible residue

appeared to be left of the hands after using the wipes. The particulates also generally improved opacity and appeared to slightly provide tactile property improvements (reduced tack, better ~~Theological~~ rheological feel).

Please replace the paragraph from line 17 to line 24 on page 94 with the following paragraph:

An airlaid substrate was made with the equipment described for Example 10. Basis weight was 65 gsm and the fibers were 100% Weyerhaeuser CF405 bleached softwood kraft pulp. The binder solution had 12.8 weight percent binder solids, 75 weight percent of which was SSB Code H of Table 15 and 25 weight percent Dur-O-Set RB latex co-binder (National Starch). The binder solution was sprayed onto the web as described in Example ~~1~~ 10, with the dryer air temperature at 215°C for all three oven sections.

Please replace the paragraph from line 28 to line 30 on page 94 with the following paragraph:

An airlaid substrate was made according to Example ~~10~~ 19, except that the basis weight was 63 gsm and the oven temperature was 227°C. Reel speed was 197 fpm. Thickness of the dried web was 1.30 mm.

Please replace the paragraph from line 10 to line 22 on page 100 with the following paragraph:

Additional samples were prepared according to Example 24 above, except that 15 weight % of the fiber blend consisted of 6-mm, crimped PET fibers (KoSa). Different co-binders from Table 16 were blended with the salt-sensitive binder Code F from Table 15. The binder blend was then applied using the methods described in Example 10 to create the airlaid substrates whose properties are listed in Table 21. In each case, 20% binder solids were applied to the substrate in a blend of 75% SSB/25% co-binder. The

properties of these substrates were measured after wetting with a 4% NaCl solution. All three co-binders perform comparably. All of the substrates have lost their tensile strength in 200 ppm divalent cation solution independent of co-binder type. Compared to the parallel results in Example 24, incorporation of the synthetic fibers impart a slight to modest strength improvement (CDWT) and a modest increase in dry ~~bulk~~ thickness.

Please replace the paragraph from line 18 on page 104 to line 8 on page 105 with the following paragraph:

As the percentage of the salt sensitive binder in the blend is decreased from 100% to 55% there is only ~~to~~ a modest decrease in the CDWT at constant dry ~~bulk~~ thickness. At compositions of 65% salt-sensitive binder in the binder blend, the substrate begins to retain a greater portion of its wet strength after soaking for 1 hour in 200 ppm of the divalent cation solution. As the web is densified prior to the first binder application and the percentage of salt sensitive binder in the blend is reduced to 65% or lower, a greater amount of strength is retained after soaking in DI water or the 200 ppm divalent cation solution for 1 hour compared to the same compositions at a higher dry ~~bulk~~ thickness. These examples suggest that increasing the co-binder content with or without additional densification of the web can begin to compromise substrate dispersibility.

Please replace the paragraph from line 9 to line 13 on page 105 with the following paragraph:

The results in Table 25 also show significant CDWT increases as the thickness of the dry web is compressed prior to the application of the binder. Codes 3007 to 3010 show that the CDWT is increasing as a function of decreasing dry ~~bulk~~ thickness with no loss of substrate dispersibility at constant binder conditions.

Please replace the paragraph from line 8 to line 11 on page 106 with the following paragraph:

Samples were made as in Example 10 using 75/25 blends of ~~SSb~~ SSB binder (see Table 15) and Dur-O-Set RB co-binder (co-binder 1 of Table 16), according to the information in Table 27 below. Tensile results in Table 27 show good dispersibility over a range of product conditions.

Please replace the paragraph from line 3 to line 11 on page 111 with the following paragraph:

The attributes of three, commercially available flushable wet wipe products were characterized and are listed in table ~~100~~ 29. These products are Cottonelle® Flushable Moist Wipes, Just for Me® Flushable Moist Wipes, and Charmin Kid Fresh® Flushable Wipes. All three products are sold in a flat, folded format. The substrates of these products are all adhesively bonded airlaid basesheets. While these products have the strength, opacity, thickness, and cup crush values to make them commercial successful, none of them are dispersible. All three of these products retain nearly all of their CDWT strength on soaking in 10 ppm or 200 ppm Ca++/Mg++ solutions.

Please replace the paragraph from line 14 to line 19 on page 111 with the following paragraph:

Moist Mates® is a product that has been introduced into the market on two different occasions. In its first introduction a hydroentangled basesheet was used to produce a wet wipe with the properties noted in table ~~100~~ 29, coded as MM-1. This product had good attributes except that it retained a substantial amount of its original strength (>100 g/1") on soaking in either 10 ppm or 200 ppm Ca++/Mg ++ solutions.

Please replace the paragraph from line 20 to line 25 on page 111 with the following paragraph:

In its second introduction to the market, an adhesively bonded airlaid ~~basehsheet~~ basesheet was used. The properties of this product also appear in Table 29, coded as MM-2. The second introduction has acceptable properties except that it is again not dispersible and in fact has poorer dispersiblity than its original introductory product. The Moist Mates.TM. product is sold in a roll format.

Please replace the paragraph from line 31 to line 35 on page 112 with the following paragraph:

Airlaid substrates 3007 and 3010 from Example 30, Table 25, were wetted with the wetting solution of Example ~~36~~ 39 using a hand spray application of the wetting solution. Solution add-on was 200%. The samples were immersed in water containing 10 ppm or 200 ppm of Ca++/Mg++ in a 2:1 ratio, soaked for 1 hour and then tested.

Please replace the paragraph from line 11 to line 15 on page 114 with the following paragraph:

Both codes L and R have in use CDWT strength greater than 100 g/1" combined with a wet thickness greater than 0.3 mm, a wet opacity >35%, a wet cup crush ~~lest~~ less than 40 g and soaked CDWTs less than 30 g/1" after soaking in solutions of either 10 ppm or 200 ppm of 2:1 Ca++/Mg++ for 1 hour.

Please replace the paragraph from line 18 to line 26 on page 114 with the following paragraph:

A 55 gsm, airlaid substrate was created using the methods of Example ~~42~~ 43 except that 15 weight % of the fiber furnish consisted of 6 mm, crimped PET fibers (KOSA). The binder level, binders, binder blend, and dry sheet thickness were the same as those in Example ~~42~~ 43. Some of the dried web was slit to 4.25-inch width and treated with the wetting solution of Example 18 at 225% add-on. The moistened web was converted into a coreless, perforated roll form for use as pre-moistened wipes to be

dispensed from a bathroom dispenser. The properties of these wipes appear in Table 29 listed as Code J.

Please replace the paragraph from line 30 to line 33 on page 115 with the following paragraph:

As shown in Table 29 these wipes have excellent dispersibility in either 10 ppm or 200 ppm 2:1 Ca++/Mg++ solutions. The wet wipes also have very good in use wet strength (CDWT), wet sheet thickness, wet opacity, and wet cup crush properties.

Please replace the paragraph from line 13 to line 19 on page 116 with the following paragraph:

Although this prototype has very good in use strength (CDWT), thickness, opacity and cup crush properties, its soaked tensile strength is very sensitive to the water in which it is soaked. This prototype has a S-CDWT after one hour in hard water ~~dipsersibility of 80%~~ that is 68% of the original in-use wet strength and is therefore not dispersible in hard water. In the 10 ppm soaking solution it has a CDWT >30 g/1". In the 200 ppm soaking solution it has a CDWT of ~~355~~ 280 g/1" after 1 hour.

Please replace the first row of Table 11 on page 87 with the following row:

Run	Pulp/PET	BW (gsm)	TH (mm)	MDDT (kg/3-in)	CDDT (kg/3-in)	CDWT (kg/3-in)	S-CDWT-M (kg/3-in)

Please replace the first and tenth rows of Table 20 on page 117 with the following rows:

Example Description and Designation	CDWT (~~g/in~~^{2} g/in)	S-CDWT 1hr in 10 ppm (g/in)	S-CDWT 1hr in 200 ppm (g/in)	Percent CDWT after 1 hr in 200 ppm (%)	Sheet Thickness (mm)	Opacity (%)	Cup Crush Energy (g-mm)	Cup Crush Peak Load (~~gm~~ g)	Format
Comparative Example 46 68 gsm, 100% pulp, 100% Lion SSB, 20% binder (1312); Code 1312	411	57	280	~~80~~ 68	0.46	46.8	195	30	